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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,496	05/07/2001	Chaiya Chandavasu	715-1-100	3184

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EXAMINER
MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
1723	14

DATE MAILED: 05/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-14

Office Action Summary	Application No.	Applicant(s)	
	09/851,496	CHANDAVASU ET AL.	
	Examiner	Art Unit	
	Krishnan S Menon	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) *1-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claims 1-48 are pending, of which 1-12 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas et al (US 6,444,302 B1) in view of Bierenbaum et al (US 3,426,754).

Srinivas (302) teaches a method of preparation of a microporous membrane (breathable membrane) comprising domains of a first polymer uniformly distributed in a second polymer (abstract), second polymer comprising three dimensional network of pores (col 2 line 63-col 3 line 37), film composition in the range of having first polymer 1-35% and second polymer >65%, second polymer immiscible with the first, stretching (col 9 line 43-col 10 line 20, col 11 lines 14-32) as in instant claim 13.

Srinivas does not specifically teach the porosity as 5-40% and pore dia as 1-200 nm. Bierenbaum teaches a breathable film to have 10-50% porosity and pore dia 10-500 nm (col 2 lines 24-41). It would be obvious to one of ordinary skill in the art at the time of invention to infer from the teaching of Bierenbaum that the porosity and the pore dia of the breathable membrane of Srinivas could also be made in the same range as that of Bierenbaum for use as a breathable membrane.

Claim 16 adds the further limitation of extrusion (see col 10 lines 24-30)

2. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) as applied to claim 13 above, and further in view of Perez et al (US 6,331,343 B1).

Srinivas (302) in view of Bierenbaum et al (754) does not teach casting the membrane. Perez teaches casting the membrane which is formed from a mixture of two immiscible polymers (col 7 lines 49-67). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Perez in the teaching of Srinivas (302) in view of Bierenbaum et al (754) for obtaining very thin films as taught by Perez.

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) as applied to claim13 above, and further in view of JP 58-020273.

Srinivas (302) in view of Bierenbaum et al (754) does not teach spray application for making the membrane. JP'273 teaches electrostatic spray application of the composition on a substrate. (4-fig). It would be obvious to one of ordinary skill in the art at the time of invention to use the

teaching of JP'273 in the teaching of Srinivas (302) in view of Bierenbaum et al (754) to make the membrane to avoid using solvents.

4. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) as applied to claim 13 above, and further in view of Fisher et al (US 5,013,439.

Srinivas (302) in view of Bierenbaum et al (754) teach cold stretch or hot stretch (by the temperature conditions) but not cold stretch before hot stretch as in claim 17-20 and annealing at 5-10 C higher than the hot stretching step as in claim 20. Fisher (439) teaches cold stretching at about 15-25C to about 30% more than the original dimension (col 6 lines 26-40) before hot stretching (col 7 lines 54-65) line and annealing (col 5 lines 42-55) above the hot stretch temperature to make microporous membranes using thermoplastic polymers like polypropylene. It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Fisher (439) in the teaching of Srinivas (302) in view of Bierenbaum et al (754) to obtain decreased pore size and increased pore densities as taught by Fisher (439) (abstract).

5. Claims 21-23 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) as applied to claim 13 and 16-20 above and further in view of Shibata et al (US 6,217,687).

Srinivas (302) in view of Bierenbaum et al (754) does not teach the compatibilizing block copolymer as in claims 21-23. Shibata (687) teaches such a compatibilizing co-polymer for improving the stretchability (col 5 lines 8-13) in a thermoplastic microporous membrane formed by polyethylene and having an immiscible minor component like PBT (col 5 lines 58-65). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Shibata

(687) in the teaching Srinivas (302) in view of Bierenbaum et al (754) for improving the stretchability of the membrane as taught by Shibata.

Claims 26-30 adds further limitations as discussed in claims 16-20 as above.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) and Shibata (687) as applied to claim 21 above and further in view of Perez (343).

Srinivas (302) in view of Bierenbaum et al (754) and further in view of Shibata (687) does not teach casting as the process for making the membrane. Perez teaches casting the membrane which is formed from a mixture of two immiscible polymers (col 7 lines 49-67). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Perez in the teaching of Srinivas (302) in view of Bierenbaum et al (754) and Shibata (687) for obtaining very thin films as taught by Perez.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) and Shibata (687) as applied to claim 21 above and further in view of JP'273.

Srinivas (302) in view of Bierenbaum et al (754) and Shibata (687) does not teach spray coating on a substrate. JP'273 teaches electrostatic spray application of the composition on a substrate (4-fig). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of JP'273 in the teaching of Srinivas (302) in view of Bierenbaum et al (754) to make the membrane without using solvents.

8. Claims 31-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas et al (US 6,444,302 B1) in view of Bierenbaum et al (US 3,426,754).

Srinivas (302) teaches a membrane (breathable membrane) comprising domains of a first polymer uniformly distributed in a second polymer (abstract), second polymer comprising three dimensional network of pores (col 2 line 63-col 3 line 37), film composition in the range of having first polymer 1-35% and second polymer >65%, second polymer immiscible with the first, stretching (col 9 line 43-col 10 line 20) as in instant claim 31.

Srinivas does not specifically teach the porosity as 5-40% and pore dia as 1-200 nm. Bierenbaum teaches a breathable film to have 10-50% porosity and pore dia 10-500 nm (col 2 lines 24-41). It would be obvious to one of ordinary skill in the art at the time of invention to infer from the teaching of Bierenbaum that the porosity and the pore dia of the breathable membrane of Srinivas could also be in the same range as that of Bierenbaum for use as a breathable membrane.

Claims 32-38 and the rest of the limitations of claim 31 describe specific process steps in the formation of the membrane. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

9. Claims 39-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivas (302) in view of Bierenbaum et al (754) as applied to claim 31 above and further in view of Shibata et al (US 6,217,687).

Srinivas (302) in view of Bierenbaum et al (754) does not teach the compatibilizing block copolymer. Shibata (687) teaches such a compatibilizing co-polymer for improving the stretchability (col 5 lines 8-13) in a thermoplastic microporous membrane formed by polyethylene and having an immiscible minor component like PBT (col 5 lines 58-65). It would be obvious to one of ordinary skill in the art at the time of invention to use a compatibilizing copolymer in the membrane as taught by Shibata (687) in the membrane as taught Srinivas (302) in view of Bierenbaum et al (754) for improving the stretchability as taught by Shibata.

Re claims 40-48, these claims are product by process. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Response to Arguments

Applicant's arguments with respect to claims 13-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon
Patent Examiner
May 14, 2003

W. L. WALKER
SUPERVISORY PATENT EXAMINER
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